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A wavelet-based technique for eliminating noise from optical spectra

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Abstract

In the paper we deal with the removal of noise from an optical spectral line of Cu I (330.79 nm: 4P12F0 - 4d14G). For this purpose we use wavelet denoising algorithm along with the minimal energy criterion that allows one to effectively divide the signal into "useful" and parasite components. This approach is tested on an example of reconstruction of a Lorenzian profile blurred by a random fractal noise.

Keywords

Denoising, Optical spectra, Wavelet-based technique